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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/354,815	07/16/1999	TOSHIYUKI TANAKA	15162/00790	5615

24367 7590 04/21/2004

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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

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DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/354,815

Applicant(s)

TANAKA, TOSHIYUKI

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/8/2003 & 1/28/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/8/2003 & 1/28/2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground of rejection.

Claim Objections

3. Claims 4, 9, 10 & 14 are objected to because of the reasons set forth below:

Regarding claim 4, the limitation "the image data output from said light-receiving element" is not consistent with the pre-defined image data in claim 1, wherein the image data is output from the image pick-up element, **not from the light-receiving element**. In other words, the light-receiving element outputs a light quantity, **not the image data**.

Regarding claims 9, 10 and 14, the Examiner submits a similar analysis as applied to claim 4.

Appropriate correction is required.

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In view of the objection above, the Examiner interprets the limitation "the image data output from said light-receiving element" as "the image data output from said image pick-up element."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima et al (US 6,427,423) in view of Uehara et al (US 5,459,511).

Regarding claim 1, Ejima discloses a digital camera having a sequence-photograph mode (i.e., one of continuous modes with LCD closed) and other modes (i.e., a single mode S with LCD open and other continuous modes L, H with LCD open) as shown in Figs. 1-3, col. 4, lines 38-57 and col. 9, lines 7-61; the digital camera comprising:

an image pick-up element (20) for receiving light reflected from an object and outputting image data of the object (Fig. 6);

a light-receiving element (16, 51) for outputting data as to a light quantity received from the object, the light-receiving element being different from the image pick-up element (Fig. 6);

a first controller (39) for controlling an exposure amount (i.e., brightness value affected by aperture stop 54 and electronic shutter) of the image pick-up element for a next frame in a

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sequence of photographs based on the light-quantity data output from the light receiving in the sequence photograph mode (see Fig. 6; col. 6, line 64 – col. 7, line 30; col. 8, lines 24-38 and col. 9, lines 7-22 and note that LCD is closed and the exposure amount is calculated based on the output from photometric 51);

a second controller (33, 39) for controlling the exposure amount (brightness value) of the image pick-up element based on the image data output from the image pick-up element in the other modes (see Fig. 6; col. 8, lines 39-53 and note that the electronic shutter is controlled by using the feedback loop at CCD driving circuit 34 from DSP 33 as described in col. 6, lines 13-17).

Ejima does not explicitly disclose that the exposure amount of the image pick-up element for the next frame in the sequence of photographs is calculated based on the light quantity data of a previous frame output from the light-receiving element **in the sequence-photograph mode**. As taught by Uehara, an exposure amount of the image sensor (39) for a next frame, such as an aperture stop value for the next frame, is calculated based on the difference between the aperture value determined from the output of the photometric element (27) in a previous frame and the aperture value determined from the output of the photometric element in the current frame in a continuous shooting mode (see Uehara, Fig. 16, col. 10, line 57 – col. 11, line 36). Thus, it is clear that the exposure amount of the image sensor (39) for the next frame is also calculated from the light quantity output from the photometric element in the previous frame. The teaching of Uehara is to enhance the exposure control of the image sensor by controlling aperture in short time period for a higher speed continuous shooting to be made possible as compared to conventional cameras.

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Therefore, it would have been obvious to one of ordinary skill in the art to modify Ejima to include the teaching of Uehara for exposure control when the LCD is closed such that the exposure amount for the next frame (i.e., a previous aperture value plus a compensation value) is determined based on the light-quantity data output from photometric element in the previous frame and the current frame in the continuous shooting mode. Such the modification would reduce the time for controlling an exposure amount of the image sensor and increase continuous shooting to a higher speed.

Regarding claim 2, Ejima shows a CCD (20) in Fig. 6

Regarding claim 3, Ejima discloses that a charge accumulation time of the CCD (brightness affected by electronic shutter) is controlled by the second controller based on the image data output from the image pick-up element (20) as shown in Fig. 6 and col. 8, lines 39-53 and note the feedback loop at the CCD driving circuit (34) for controlling electronic shutter of the CCD.

Regarding claim 4, Ejima also discloses a third controller (also CPU 39 for other functions) for controlling aperture stop (for brightness), white balance and strobe as other control parameters other than the charge accumulation time of the CCD based on the image data output from the image pick-up element in the other modes (LCD open) as described in col. 8, lines 39-53 & col. 7, lines 37-41.

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Regarding claim 5, Ejima also discloses a flash lamp (4), wherein the third controller controls quantity of light emission (zero emission) of the flash lamp (see col. 7, lines 37-41).

Regarding claims 6-10, see the Examiner's analysis in claims 1-5, respectively.

Regarding claims 11-15, see the Examiner's analysis in claims 1-5, respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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NT.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600